

CLAIMS

1. A method for the preparation of an architectural silicone membrane by impregnation of an architectural textile with at least one silicone, comprising the following essential stages:

-Ii = positive integer-

application to an architectural textile of a liquid silicone composition which can be crosslinked into an elastomer, comprising

(a) at least one polyorganosiloxane (POS) having, per molecule, at least two alkenyl, preferably C₂-C₆, groups linked to the silicon;

(b) at least one polyorganosiloxane having, per molecule, at least three hydrogen atoms linked to the silicon;

(c) a catalytically effective quantity of at least one catalyst, preferably composed of at least one metal belonging to the platinum group;

(d) optionally, at least one adhesion promoter;

(e) optionally, a mineral filler;

(f) optionally, at least one crosslinking inhibitor;

(g) optionally, at least one polyorganosiloxane resin; and

(h) optionally, functional additives in order to impart specific properties;

- Iii = positive integer-

crosslinking of the silicone composition;

- III -

optionally at least one other operating sequence comprising stages Ii ≥ 2 and Iii ≥ 2 (i being a positive integer) corresponding to the same definition as that given above for stages Ii and Iii;

characterized in that

- stage Ii=1 is a stage of impregnation right to the

core of the architectural textile using a liquid silicone composition

➤ having:

5 * a dynamic viscosity of between 1000 and 7000 mPa.s, at 25°C, and more preferably of between 2000 and 5000 mPa.s at 25°C before crosslinking,

10 * and, after complete crosslinking by curing in a fan oven for 30 minutes at 150°C, at least one of the following mechanical properties:

- a Shore A hardness of at least 2, preferably between 5 and 65,

15 - a tensile strength of at least 0.5 N.mm⁻¹, preferably of at least 0.1 N.mm⁻¹ and more preferably of at least 2 N.mm⁻¹,

- an elongation at break of at least 50%, preferably of at least 100% and more preferably of at least 200%,

20 ➤ and furthermore being fluid and obtained without having recourse either to dilution or to dissolution or to emulsification,

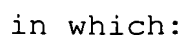
25 - the architectural silicone membrane thus obtained having a capillary rise of less than 20 mm, preferably of less than 10 mm and more preferably still equal to 0, the capillary rise being measured according to a T test.

30 2. The method as claimed in claim 1, characterized in that the impregnation stage comprises a padding.

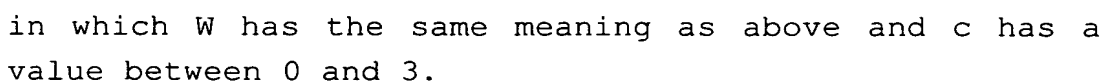
35 3. The method as claimed in either of claims 1 and 2, characterized in that it comprises at least one stage III, in which stage II≥2 for application of liquid silicone is a coating using a liquid silicone composition which can be crosslinked into an elastomer.

4. The method as claimed in any one of claims 1 to

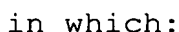
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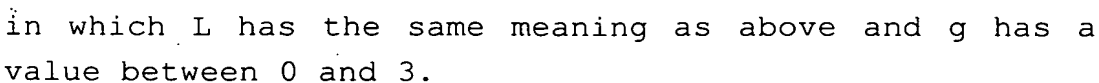
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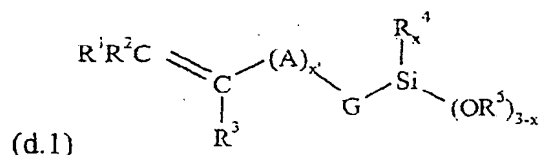


6. The method as claimed in any one of claims 1 to 5, characterized in that the proportions of (a) and of (b) are such that the molar ratio of the hydrogen atoms

linked to the silicon in (b) to the alkenyl radicals linked to the silicon in (a) is between 0.4 and 10.

7. The method as claimed in any one of claims 1 to 5 6, in which the adhesion promoter comprises:

(d.1) at least one alkoxyated organosilane satisfying the following general formula:



in which:

10 - R^1 , R^2 , R^3 are hydrogenated or hydrocarbon radicals, which are the same or differ from one another and represent hydrogen, a C_1 - C_4 linear branched alkyl or a phenyl optionally substituted with at least one C_1 - C_3 alkyl;

15 - A is a C_1 - C_4 linear or branched alkylene;
 - G is a valency bond;
 - R^4 and R^5 are radicals, which are identical or different and represent a linear or branched C_1 - C_4 alkyl;

20 - $x' = 0$ or 1; and
 - $x = 0$ to 2,

said compound (d.1) being preferably vinyltrimethoxysilane (VTMS);

25 (d.2) at least one organosilicone compound comprising at least one epoxy radical, said compound (d.2) being preferably 3-glycidoxypropyltrimethoxysilane (GLYMO); and

30 (d.3) at least one metal M chelate and/or a metal alkoxide of general formula $\text{M}(\text{OJ})_n$, where n = valency of M and $\text{J} = \text{C}_1$ - C_8 linear or branched alkyl, M being chosen from the group formed by: Ti, Zr, Ge, Li, Mn, Fe, Al and Mg,

said compound (d.3) preferably being tert-butyl titanate.

8. The method as claimed in any one of claims 1 to 7, in which the adhesion promoter is present in an amount of 0.1 to 10% by weight relative to all of the constituents.

9. An architectural silicone membrane that can be obtained by the method as claimed in any one of claims 1 to 8, characterized in that the architectural textile is impregnated right to the core with crosslinked silicone elastomer obtained from a liquid silicone composition as defined above in the context of the method claims 1 to 8.

10. The architectural silicone membrane as claimed in claim 9, characterized in that the coated architectural fabric which is a constituent is formed by a fibrous support chosen from the group of materials comprising: glass, silica, metals, ceramic, silicon carbide, carbon, boron, basalt, natural fibers, such as cotton, wool, hemp, flax; artificial fibers, such as viscose or cellulose fibers; synthetic fibers, such as polyesters, polyamides, polyacrylics, "chlorofibres", polyolefins, synthetic rubbers, polyvinyl alcohol, aramides, "fluorofibres" and phenolics.

11. The architectural silicone membrane as claimed in claim 9 or 10, characterized by a capillary rise of less than 20 mm, preferably of less than 10 mm and more preferably still equal to 0, the capillary rise being measured according to a T test.

12. The architectural membrane as claimed in any one of claims 9 to 11, characterized in that it has a weight of less than 2000 g/m² and preferably of between 400 and 1500 g/m².